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BIRDS AID BLUEBERRY AND CRANBERRY GROWERS

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Using Birds in the Control of Berry Insects

Blueberry and cranberry growers, though faced with many and varied problems of insect attack on their crops, frequently fail to utilize fully the assistance of birds. Besides adding to the attractiveness of the surroundings, birds encouraged [1] to breed in the vicinity of blueberry and cranberry bogs would provide a valuable supplement to flooding and other measures for the control of the insect pests attacking these two economically important heaths. The extent of this potential aid is indicated by the accompanying lists of birds that feed on insects in the berry-growing areas from New England to New Jersey and Wisconsin. That these birds are enemies of the various blueberry and cranberry insects has been determined through examination of stomachs by the Bureau of Biological Survey.

[1] See Farmers' Bulletins 844, How to Attract Birds in Middle Atlantic States; 912, How to Attract Birds in the East Central States; 1456, Homes for Birds; and 1644, Local Bird Refuges. For sale at 5 cents each by the Superintendent of Documents, Government Printing Office, Washington, D. C.

Moths and Caterpillars

Moths and their larvae are among the most important of the insect enemies of blueberries and cranberries, and almost all varieties of the local birds feed on these insects at one time or another. On the basis of material from stomachs, however, it is often impossible to do more than identify the insects merely as moth, caterpillar, cutworm, spanworm, etc. The red-striped fireworm webs together the leaves of cranberry and blueberry plants and occasionally is destructive to the growing tips. Though none of these have been found in a bird stomach, closely related leaf miners have been taken by the bobwhite and the nighthawk. The cranberry or black-headed fireworm, the yellow-headed fireworm, and the spotted fireworm are among the leaf-rolling enemies that occasionally cause serious damage. Of the 21 species of birds eating leaf-roller moths, the most consistent feeders are the downy woodpecker, black-capped and Carolina chickadees, and the Brewer's blackbird. The cranberry fruit worm, one of the most important of the insect enemies, has not as yet been found in a bird stomach, but many other snout moths have been consumed by bog-frequenting species--the crow, yellow palm warbler, English sparrow, and red-winged blackbird being outstanding in this regard. The loopers--including the blueberry spanworm, the green, brown, and big cranberry spanworms, the cotton spanworm, and the chain-spotted geometer--are among the more serious of blueberry and cranberry pests. Though these particular spanworms have not been identified in the contents of birds' stomachs, 42 species of birds have preyed much upon their kind, among them the sparrow hawk, bobwhite, cuckoos, crow, European starling, and the English sparrow.

The gypsy moth, an introduced pest that occasionally inflicts great injury to blueberry and cranberry leaves, has been eaten by no less than 46 kinds of birds, among them the cuckoos, downy woodpecker, black-capped chickadee, robin, red-eyed vireo, European starling, red-winged blackbird, orioles, and the towhee.

More than 25 kinds of cutworms are destructive to cranberries, blueberries, and huckleberries. Some of these are the army worm, fall army worm, false army worm, black army cutworm, cranberry-blossom worm, spotted cutworm, variegated cutworm, well-marked cutworm, and W-marked cutworm. The most important among the bird enemies of these cutworms are the ruffed grouse, bobwhite, killdeer, upland plover, cuckoos, crow, mockingbird, catbird, robin, bluebird, European starling, English sparrow, meadow lark, blackbirds, orioles, cowbird, cardinal, and various native sparrows.

Gall Midges and Gnats

The cranberry midge, or tipworm, the blueberry bud gall, the blueberry leaf gall, and gall gnats, all of which are destructive to these crops, are subject to attack by the chimney swift, cliff swallow, black-capped chickadee, Baltimore oriole, and goldfinch. Another serious pest of blueberries is the blueberry strain of the apple maggot, sometimes called the blueberry maggot, which pulps the fruit. This is one of the fruit flies devoured by the nighthawk, yellow-bellied flycatcher, wood pewee, and tufted titmouse.

Beetles

The Japanese beetle, though attacking the foliage of cranberries to some extent, often completely skeletonizes the leaves and devours the fruit of blueberry and huckleberry plants. This beetle is preyed upon by 16 species of birds, the most important being the catbird, European starling, meadow lark, purple grackle, and cardinal.

Among beetles that attack the fruit of blueberries and cranberries, certain of the long-horned varieties and the leaf beetles deserve serious consideration. In the first group is the blueberry stem borer, eaten by the downy woodpecker and orchard oriole. The second group includes the various blueberry and cranberry flea beetles, the blueberry stem borer, and other leaf beetles. These are taken by upwards of 100 species of birds and in numbers by the upland game birds, cuckoos, nighthawk, chimney swift, woodpeckers, flycatchers, swallows, horned lark, crow, wrens, mockingbird, catbird, brown thrasher, robin, thrushes, bluebird, kinglets, pipit, European starling, vireos, warblers, English sparrow, meadow lark, blackbirds (especially the purple grackle), rose-breasted grosbeak, and native sparrows.

Sawflies

The cranberry sawfly has occasioned serious loss through leaf eating by the larvae. Sawflies have been eaten by 78 species of birds of the cranberry and blueberry associations, their most important enemies being the ruffed grouse, upland plover, swallows, black-capped chickadee, vireos, and the English sparrow.

Bugs

The brown stinkbug may at times become a serious blueberry pest, since it feeds on the ripe fruit. This bug has been found in the food of 11 species of birds, of which the most persistent eaters are the sharp-tailed grouse, black-bellied and upland plovers, European starling, and meadow lark.

Many of the leaf bugs have been found on cranberry and blueberry plants and may do considerable injury where conditions are favorable. In the areas covered by this study, many kinds of birds take leaf bugs, those deserving special mention being the bobwhite, nighthawk, chimney swift, woodpeckers, flycatchers, swallows, wrens, the robin and other thrushes, kinglets, European starling, warblers, English sparrow, blackbirds, and the chipping sparrow.

The spittle insects are eaten commonly by at least 35 birds, among them the nighthawk, black-capped chickadee, wrens, European starling, vireos, warblers, and the English sparrow. The blueberry spittle bug, a species also injurious to the cranberry, is found in the food of the ruffed grouse, nighthawk, cliff swallow, and English sparrow.

The one species of lantern fly known to injure cranberry plants by puncturing the bark in the course of laying its eggs has so far been identified only from the stomach of a European starling, although its congeners have been eaten by several birds of the cranberry bogs. The bobwhite, lesser yellowlegs, nighthawk, chimney swift, European starling, English sparrow, and red-winged blackbird consume them in appreciable quantities.

Katydids, Crickets, and Grasshoppers

Among the less important enemies of cranberry and blueberry crops are the katydids, crickets, and grasshoppers, which feed to a considerable extent on the foliage. Practically all species of birds feed on grasshoppers and allied insects. The field cricket, somewhat destructive to the blueberry crop, is eaten by the great blue heron, green heron, ruffed grouse, greater prairie chicken, ring-necked pheasant, lesser yellowlegs, common tern, nighthawk, kingbird, and European starling.

Summary

In the preceding lists of bird enemies of pests of blueberries and cranberries, the European starling and the English sparrow appear to be more consistent enemies of blueberry and cranberry insects than are the native species. This may be due in part to the fact that far greater numbers of stomachs of these alien birds have been examined, though fairly large numbers have been examined of some native species, as the bobwhite, crow, robin, meadow lark, and red-winged blackbird, which frequently appear in the lists. That cuckoos, the nighthawk, swallows, and flycatchers appear so often on the basis of fewer examinations suggests that they are among the blueberry and cranberry growers' best assistants.